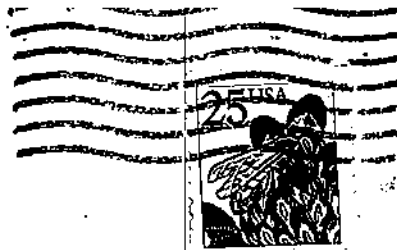


Harbor Soaring Society
P.O. Box 1965
Costa Mesa, CA 926216



FIRST CLASS MAIL

WILL CONRAD
9359 SHRIKE AVE
FOUNTAIN VALLEY, CA 92709

(The Soaring) Society Column

President:	Chris Hurley	(714) 458-9251
Vice Pres:	Roger Lowery	(714) 756-9356
Secretary:	Jared Stalls	(714) 772-1846
Treasurer:	Frank Chastler	(714) 545-2185
Contest Coord:	George Joy	(714) 556-6385
General Dir:	Ross Thomas	(714) 638-0705
News Letter Ed:	Bob Silff	(714) 895-1203

"The Oldest Sanctioned Soaring Club In the AMA"
Chapter # 128

March 1989

Volume 26 Number 3

March Club Meeting: The March club meeting will be held on Wednesday, March 1, 1989 at 7:30 pm at the Consolidated Water District Office, 1965 Piacentia Ave., Costa Mesa, Ca. Airtronics Inc. personnell will be there to answer your questions about radios and frequencies. They will have equipment for checking your transmitter for compliance with current and 1991 TX frequency standards. They have offered to check any TX that you bring. So Bring them in and get checked out.

The following Sunday will be the Lee Renaud Memorial Sailplane Contest to benifit the AMA Library Fund. Airtronics is supplying medallions (Olympics style) for the first three places in all three classes. See the flyer in last months issue for details or check with the CD, Frank Chastler.

April Club Meeting: The April club meeting will be held on Wednesday, April 5, 1989 at 7:30 pm at the Water District Office.

THE NL EDITOR

Well, folks, here is number two for me. I guess we can call this month our month to find out and get better. On the get better side, Rich Garner has come through with his promised first offering, a piece on landing practice and procedure. Look it over. I am sure it can help many of us in doing better in the landing phase of our club contests.

On the Find Out side, we are expecting a visit from the Airtronics company at our club meeting. I do not know just who will be present, but I am sure they will be most interesting and helpful, and they will even check out Transmitters for us to be sure they pass muster for the present FCC regulations.

In addition, I received my monthly copy of the AMA National News Letter and it contained a piece on the subject of R/C frequencies and Radio procedures. I have included the entire piece for your edification of the AMA position and as a basis for some questions you might think to ask the Airtronics Personnel at the meeting.

One other bit of information comes from Charlie Knape, the Radio Service Technician for Hobby Shack. It seems he placed an antenna on top of the Fountain Valley building and over a period of time (I don't know how long but it was conducted on week days only) and conducted some spectrum analyzer tests. He states, "Spectrum analyzer tests confirm that there are several paging systems using frequencies only 10Khz away from some of our R/C channels. These channels were CH 12, CH14, CH18, CH20, CH 22, CH 24, CH 28, CH 32, CH 40, CH 42, CH 44, CH 46, CH 48, CH 52." This does not mean that pagers don't exist (or could at any time) near the other CH numbers. WOW? But, this is what the AMA told us would be the case! But, don't panic. It may not be as bad as this makes it appear. For a pager is normally only a quick burst, lasting a second or two. That means something from a quick glitch to a good hit, but likely no more than disconcerting. Newer tighter receivers should really screen this out anyway. PCM radios should, if the signal should get through, mask the interference by holding until it passes. Older receivers will be more susceptible. With better equipment (the direction in which I see Airtronics rapidly heading) we should be able to operate well in the existing electromagnetic environment of the Los Angeles Basin.

Don't panic. Read the article below, titled "Frequency Asked Questions," and come to the meeting loaded with Questions and Transmitters.

Fly until it Hertz., Bob Sliff

Post Script:

NAME BADGES

Frank Chastler wishes to remind those who have club name badges coming to please pick them up. You can ask Frank any time you see him, or just give him a call.

MINUTES OF THE FEBRUARY, 1989 MEETING

The meeting was called to order by President Chris Hurley at 7:30 PM.

1. The minutes of the January 4th, 1989 meeting were approved as published with the exception that the subject of nose skids was only discussed and not voted upon.

2. The treasurer's report was approved as published.

3. New Face: Wade Terrel was introduced to the club.

4. Old Business:

A. Bob Sliff announced that materials for the news letter must reach him by the 20th of each month in order to be included in the next issue.

B. Will Conrad provided more information on the park construction and effects on the field, stating that the City of Costa Mesa and Valley Crest Landscapers are aware of our needs and are willing to accommodate us as the needs arise.

C. The Board recommended that "No metal landing aid, in front of the tow hook, will be used." A motion was made and seconded and approved by the members present.

D. The Board made a recommendation that the nose radius of 7.5 mm as required in the AMA Sporting Code be checked at contests. A motion was made and seconded and approved by the members present.

E. Frank Chastler made a motion that our club adopt the Black on White frequency identification for official use at the field. It was seconded and approved by the members present.

5. New Business:

A. Felix Vivas presented some information on the Sailplane Symposium held in Wisconsin and presented in the March issue of Model Aviation Magazine.

B. Will Conrad announced that he had a tape available of Jerry Bridgman constructing his F3-E plane with Epoxy and Fiberglass.

C. Felix Vivas requested input from other members on having a 4th of July Club picnic.

6. The meeting was adjourned at 9:00 PM for break and program.

Jared Stalls, Secretary

President's Notes

The month of February has proven to be a very busy month for me. I've been taking a Real Estate licensing course (3 classes a week) and also moved to Mission Viejo. The pace has been hectic and hasn't left much time for building or flying. My new address is 27812 Violet, Mission Viejo, CA 92691. My new phone number is 458-9251.

At the last club meeting we discussed ordering club shirts and transmitter covers with a club logo. A committee comprised of Dick Pantzar, Jack Yail and Steve Hendry are looking into the shirt situation and Tom Pastore will determine the extent of interest in the club for transmitter covers. We hope to be able to settle on the initial orders at the March meeting. If you have any thoughts on the topic, please contact the above mentioned members. We had quite a bit of discussion regarding shirt styles, colors and fancy club logos at the last meeting. In order to be able to get the merchandise as soon as possible, I recommend that we agree upon ordering the same style of shirt that we currently have.

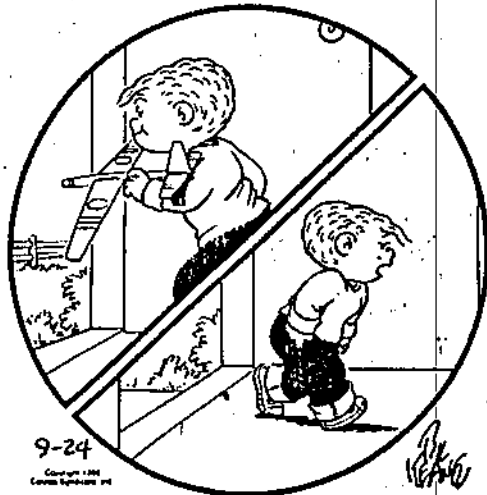
After scanning the list of HSS LSF members it looks like many of use need to complete the Level IV Goal & Return task. We should start thinking about a trip to a suitable site. New members are encouraged to mail in their LSF applications and start on Level I. The Level I & II tasks will help you improve your contest landing skills.

Remember that the Lee Renaud Memorial Contest is scheduled for Sunday, March 5th. Frank and Ken have put a good amount of effort into this event. Medals will be awarded in three classes and prizes will be raffled off. Let's all support the effort and participate to ensure that the contest is a success. See you there!

Chris Hurley

HARBOR SOARING SOCIETY LSF MEMBERS

<u>NAME</u>	<u>LSF #</u>	<u>LEVEL</u>
DAVE NEMECEK	.6102	I
DIETER LAMPRECHT		I
TOM PASTORE	.5768	I
BOB SLIFF	.2072	II
JIM FRYE	.4264	III
CHRIS HURLEY	.6035	III
GEORGE JOY	.6012	III
GORDON RITSCHKE	.1594	III
ROSS THOMAS	.5663	III
MORRY SMITH	.3744	III
FRANK CHASTELER	.1238	III
TOM CHASTELER		III
RALPH SAN GIOVANNI	4015	III
PETE RICHARDSON	.2549	III
HOWARD DOERING	.4557	III



"I hate trees."

THE FINAL TOUCH

by Rich Garner

It is a matter of fact that sailplane contests are won or lost in the landing circle. Of course all aspects of the flight are important, including the launch, searching for lift and thermaling, but it is what happens in the landing circle that really counts. I believe a good landing results from a good approach and a good approach results from a good pattern—not all of the time, but most of the time.

There are different kinds of patterns all of which may be good. What really matters is finding one you are comfortable with and sticking to it. Consistency pays off. I also believe that everyone, no matter how good they are, needs someone at times to give constructive criticism. This can be your timer, friend, or anyone you choose to listen to. If you don't do this, you can become very proficient at practicing and perfecting your mistakes!

The landing pattern I'm going to describe was taught to me by Larry Jolly eight years ago when I began to fly sailplanes. This method does have some of my own variations. With about one minute to go, I like to be about 100' altitude and about 150 yards out flying toward me, into the wind gradually losing altitude. At this time, I put 7-8 clicks of down trim in to transition to a cruise airspeed. Down trim helps to adjust the cruise airspeed as well as possibly preventing your sailplane from being blown up or sideways by a gust when on final or just before landing. With about 30 seconds to go and 40' altitude, I like to be turning over the end of the tape 90 degrees to my downwind leg. (Be alert for other transmitters in the area in order to avoid being hit by third order modulation!)

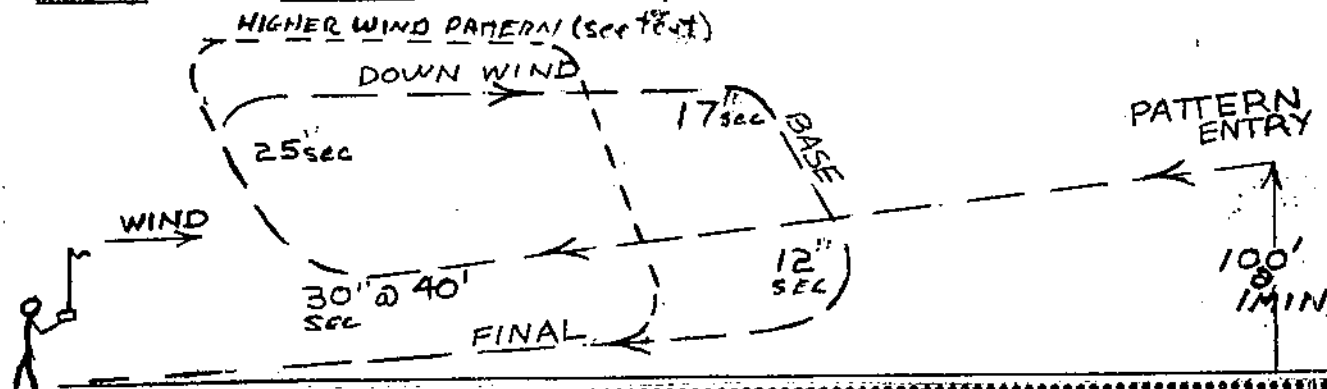
with about 25 seconds to go, I turn downwind at cruise speed continuing to lose altitude. At 17 seconds to go, I turn on the base leg to intercept my final approach. The advantage of the base leg is that you have time to adjust the pattern by turning early on final if you are either late or in sink. With about 12 seconds to go, I'm turning on final and lining up with the wings level and so low

you don't think you can make it back! I believe the last 10 seconds is the most critical part of the pattern. If you are not lined up with wings level and/or are too high and fast, a lot of things can go wrong. With 10 seconds remaining, I am committed and I begin to concentrate on the landing and forget the time. I would rather have a 95 landing and be 3 seconds off than be on time with a 70 landing.

Now that you are on final and lined up, you can use some spoilers if necessary, but not too early or you may not make it back. Open your spoilers smoothly to minimize the turbulence over the rudder and elevator and raise your nose slightly to stop your rate of descent. As you approach the end of the tape you should be one foot above the ground. If you are blown sideways by a gust, hold what you've got and settle for a 70 landing instead of taking a chance and over correcting and landing upside down or breaking your sailplane. Your airspeed should be slow enough now that you can fully open spoilers and gently lay her in for that perfect 100 landing. (I wish I could do that but my landings are more like carrier landings—controlled crashes.)

This pattern is good for calm to light variable winds. The times to turn are only a reference and can be changed to fit the situation and the sailplane you are flying. You may choose to use a different pattern and that is fine if it works for you, but what really matters is the last 10 seconds of the final approach which I have just described. When the winds increase in the afternoon I modify the pattern by keeping it closer in and in an oval shape, and shortening the time by about 5 seconds. Remember, in strong head winds you will need to penetrate on final and it will take you longer to cover the same distance. If you have a tail wind on your final approach you will have to extend your downwind leg so you won't arrive early and will have time to get your airspeed under control.

I hope this method will be of help to those who chose to use it, but remember what really matters is to use a pattern you are comfortable with, then sticking to it and asking for suggestion on how you can improve it. Eventually it will pay off.



Since our March meeting is to have Airtronics as our guest where by they will be checking our transmitters, and answering our questions, the following articles are timely.

The following is taken from the Jan 89 AMA National News Letter, News Letter Editor, Jim McNeill.

"FREQUENCY" ASKED QUESTIONS

The straight story for 1988-1991 (December 1988)

Recently, various publications and advertisements have listed AMA so-called "regulations" concerning radio frequency use. Confusion has resulted from the various articles. The following information is presented in an effort to clarify the situation. Specific, complete information may be found in the "Radio Frequency Information" section of the Membership manual.

- Q. "Is operation on the so-called 'old' frequencies (72.080, 72.160, 72.240, 72.320, 72.400, 72.960, 75.640) a violation of the AMA Safety Code, placing liability insurance in jeopardy?"
- A. Absolutely. See Radio Control, item 4 of Safety Code/ Not only is it a violation of the Safety Code - it is illegal! Operation on those frequencies was discontinued by the FCC in December 1987. The same condition applies to operation on the "Ham" band (6 meters) without proper licensing.
- Q. "For channels 12-34 are narrow band transmitters required for sanctioned events and recommended for all RC operating sites?"
- A. Yes! See the Frequency Recommendations in the Membership Manual. (Item 4.9 AMA Radio Control Utilization Plan.)
- Q. "How can I tell if my transmitter meets the narrowband guidelines?"
- A. There is no simple answer. If it was manufactured within the last year and a half, there is a good possibility it does, especially if it is FM or PCM. Older radios that are sent for service or frequency conversion may now be returned with a sticker affixed; silver for broadband and gold for narrowband.
- The checking is generally done with a spectrum analyzer, a device that "reads" the transmitted signal. The Academy has offered this service for the last two years, free, at most trade shows and other selected events where expert personnel are available. The service is also provided by many of the service centers around the nation.
- Certainly, the surest way to know is to return it to the manufacturer for checking.
- Q. "Are transmitters required to have a sticker affixed to indicate whether it is 'narrowband' or 'broadband'?"
- A. No! Not at the present time. The sticker program developed jointly with the Radio

Control Manufacturers Association (RCMA) and AMA currently is a voluntary informational program to let modelers know the type of equipment they are operating.

It should be noted that if a club wishes to require stickers either for their sanctioned events or normal club operation, they may do so. Adding such a requirement to club rules automatically makes it a part of the AMA Safety Code for club site operations.

Also, if Contest Directors wish to do so, they can require individuals operating on channels 12-34 to sign a document certifying that the transmitter they are using meets the guidelines for narrowband, but it might be wise for the CD to ask how the filer knows (Was it checked by the manufacturer? Was it checked by AMA at a trade show?, etc.). The current plan is to require stickers on all transmitters used at sanctioned events beginning December 20, 1990.

- Q. "Is the new frequency flag identification plan required?"
- A. No! The plan, which consists of a single color wind streamer and channel number plaque, is strongly recommended for all RC operating sites. Again, if your club wishes to mandate their use, they may do so. If you come to the NATS, be certain to have the recommended flag, expect to have your transmitter checked with a spectrum analyzer, use a frequency clothes pin, and be required to use a TX impound between flights. Those are our rules, for our event, at our site; you may have your own rules but - again - the AMA plan is strongly recommended, so that going from one site to another will not mean different requirements.
- Q. "Aren't our new channel numbered frequencies shared with other users?"
- A. They are not! But in some areas, you may find some stations operating between our RC channels. If those stations are high powered and close to the flying site, it may make operation on one or more of our channels difficult or impossible. That is the primary reason the FCC granted 80 frequencies for model use (i.e. 50 for aircraft, 30 for surface) so we can find a group without interference problems.
- The Academy has frequency scanners available for clubs to use in an effort to determine commercial use in the area. Contact your District Frequency Coordinator, Vice President, or AMA Headquarters.
- Q. "What about my older equipment?"

- A. The issue must be addressed on more of a single case basis. If it is very old, the manufacturer no longer exist, and you cannot locate a service facility to work on it, the answer is that it should be retired from service.

However, there have been 10-year old transmitters that have been brought up to 1991 specifications with little cost and effort. Note that we said transmitters, not receivers. While the manufacturers and service facilities have changed frequencies and adjusted equipment for very reasonable fees, you will need to determine the value of the older equipment to you, individually. In light of declining equipment costs in recent years, it may not be practical to "fix up" older equipment.

By letter dated December 14, 1988, the FCC has confirmed that manufacturers or their authorized representatives may perform the "narrowband" service on older transmitters without having to retype accept it.

Currently, no AMA requirement for "narrowband" receivers has been established for now or 1991. It should be noted, however, that more reliable, safer operation will result when both narrowband transmitters and receivers are used. Some sites, due to nearby commercial operation may find that "narrowband" receivers are a must in order to minimize or eliminate interference.

- Q. "What are these guidelines I have heard about?"
- A. The Academy, through its Frequency Committee, developed a set of operations guidelines that would set the required specifications for radio equipment to function in a 1991 environment. These specifications are very comprehensive in nature and were the result of field work, committee studies, and research accomplished by an independent agency. The guidelines were provided to RC industry for their consideration. They have been given support in their implementation by the newly formed Radio Control Manufacturers' Association (RCMA). The complete text can be found in your AMA Membership Manual.
- Q. "In a nutshell, what are the specifications the AMA is looking for in the Gold Star transmitter checks at trade shows?"
- A. In order for a transmitter to be classified "narrowband" and acceptable for 1991 operation by the AMA, it must not be more than ± 1500 Hertz off its stated channel center frequency. In addition, the side bands must be at least 55 db down at ± 20 KHz out from the stated channel center frequency. Many of the newer transmitters checked meet this requirement.

For use on channels 38-56, 40 KHz spacing "broadband" requirements are acceptable. For this, the transmitter must be within ± 3500 Hertz and at least 35 db down at

± 20 KHz out. If your equipment is outside of these specifications, it should be serviced.

- Q. "Why do we need 50 frequencies? Our club only flies four models at a time?"
- A. Few RC clubs need 50 frequencies. No one is suggesting that you have to use all of them at your field. They were given to modelers by the FCC because, in some areas, particularly large metropolitan centers, commercial use of the in-between frequencies (frequencies 10 KHz away from ours) may prove to be interference causing. Should that be the case, a few frequencies may have to be avoided and others of the 50 used. Having 50 to choose from means your club can pick whatever frequencies can be used in your areas without outside interference.
- Q. "I'm confused! What are the rules concerning frequency control methods such as pins, transmitter flags and impounds?"
- A. For the most part, there aren't any "rules"! There are brief references in the Competition Regulations book that address these issues. For instance, in RC Sailplanes, transmitter impounding is mentioned. Generally, however, there is no mention of frequency control methods as rules either in the competition Regulations or the Safety Code.

A basic plan for frequency control and identification has been developed and is strongly recommended for use at all flying sites.

Contest Directors may require specific frequency control methods at sanctioned events. Typically, the NATS has required a spectrum analyzer check of transmitters, the recommended frequency flag, "pin" system of frequency control, and impounding of transmitters.

Local club rules should require some form of frequency identification and control. Once such operating procedures are incorporated as rules for the site, they become part of the AMA Safety code by virtue of General Rule number three of the Code.

Once again, while the methods developed by the Frequency Committee are strongly recommended for use at your field, other systems may be used. As an example, some sites use a subtractive system where an identifying "pin" is removed from a board and placed on a transmitter antenna. Others use an additive system, in that case, a pin or paddle is placed on a board indicating the frequency in use. One club uses inexpensive nylon vests with a patch of white cloth and HUGE channel numbers on the back for identification.

In any case, there are no specific "rules" that state that a certain type of frequency control method must be used. The AMA Safety Code is a very general document and allows the club or individual an extremely wide latitude in operation procedures.

HSS CONTEST DEPARTMENT

George Joy, Contest Coordinator

The following contest schedule is complete to the best of my knowledge as of this date, 23 Feb 1989

DAY MONTH . . CONTEST DIRECTOR OR INFORMATION

5	MAR	.. Frank Chastler (Lee Renaud Memorial)
19	MAR	.. Bob Sliff (HSS Monthly) (Want to discuss Date Change at MTG to 12 MARCH *)
19	MAR	.. Sam 26 Taft, Old Timer Glider (with other OT events)
1-2	APR	.. Masters Of Soaring (Invitational) TOSS/M. Moran
8-9	APR	.. 1989 Dr. Pepper Classic, Fresno FSS/S. Gunther CD
9	APR	.. Steve Hendry (HSS Monthly) (Should Consider Date Change For DR. Pepper Annual*)
23	APR	.. North County Clouds SC2
29-30	APR	.. PSS Rosebowl Soaring Festival
6-7	MAY	.. LSF Soaring Nats (N. Calif.-Bay Area)
7	MAY	.. Steve Fink (HSS Monthly)
4	JUN	.. ISS Hand Launch Annual
11	JUN	.. Herman Hall (HSS Monthly)
17-18	JUN	.. John Lupperger (Astro Champs)
25	JUN	.. SULA SC2
9	JUL	.. _____ (HSS Monthly)
15-32	JUL	.. AMA Nationals
6	AUG	.. John Lupperger (HSS Monthly)
19-20	AUG	.. Felix Vivas (7CELL F3E)
27	AUG	.. TOSS SC2
10	SEP	.. _____ (HSS Monthly)
24	SEP	.. ISS/SWSA SC2
8	OCT	.. Dave Nemecek (HSS Monthly)
15	OCT	.. PSS SC2
5	NOV	.. _____ (HSS Monthly)
19	NOV	.. George Joy/Frank Chastler (HSS SC2)
3	DEC	.. _____ (HSS Monthly)

The above is a Partial Schedule--Will add more as they become known.

Please Note the blanks--I Need CD's for these.

Two Contest Dates for discussion--The 19 MAR HSS Monthly, and the 9 APR HSS Monthly.

1. The 19 MAR Contest--The CD, Bob Sliff would like to have it on the 12th vice the 19th. As there will not be a news letter before that date, please either come to the meeting or check with the CD or other Club officer for the correct date. The reason for the Change request was a late notification of the SAM 26 Contest at TAFT which will include Old Timer Glider. The CD, Bob Sliff (and others) go would like to attend that contest and attend the HSS contest also. Besides, he is the CD of our monthly.

2. The 9 APR Contest--Traditionally a number of our members attend the Dr. Pepper Annual. Thus we should consider moving our contest to another date in the month, possibly the 16th.

The March Contest will be our 'Standard' 3/5/7 event.

All three rounds will be pilot choice of 3 min. 700/300 or 5 min. 800/200 or 7 min. 900/100. The choice is up to the pilot during the flight. Your actual time will determine which time factor applies. Scoring will be by our HSS Point factor sheet that Herman Hall developed. Note: This is the same as the SC2 Default format, scored to our sheet.

The Hss Video Library R. Lowery, Librarian

The following club owned videos are available for viewing.

NAME/COMMENT/RATING (0-5)	
SABER JET / F-86 History/shoot-em-ups	/ 4
STRIKING BACK	/ 4
FOAM, FIBERGLAS, FLIGHT	/ 4
FIRST FLIGHT	/ 0
MONOKOTE 1 & 2 / Interesting	/ 3
MIG KILLERS	/ 3

HOOK DOWN, WHEELS DOWN / NAVY	
Avation Hist	/ 4
F3E USA Team Selection 1988/Elect flight	
DAWN PATROL / WWI Movie	/ 4
THUNDERBOLT, FLIGHT FOR THE SKYS	
WWI Air Combat	/ 5

More Tapes are being added all the time. All tapes are in VHS format. If you would like to check a tape out or return one, call me, Roger Lowery, so we can meet at the field or at the club meeting or something. My number is 756-9356

Harbor Soaring Society

February Monthly Contest Results

Open Division

Name	Actual Score	Normal Score	Class	Trophy
1 HARRIS, P.....	2,902.0	1,000.0	E	E-1
2 CHASTELER, F.....	2,833.0	976.2	E	E-2
3 DANRICH, D.....	2,807.0	967.3	E	E-3
4 SLIFF, B.....	2,797.0	963.8	E	
5 GARNER, R.....	2,750.0	947.6	E	
6 HENDRY, S.....	2,726.0	939.4	S	A-1
7 JOY, G.....	2,705.0	932.1	E	
8 WHITE, L.....	2,649.0	912.8	A	A-2
9 LUPPERGER, J.....	2,614.0	900.8	E	
10 LAMPRECHT, D.....	2,606.0	898.0	E	
11 FINK, S.....	2,518.0	867.7	A	
12 POULSEN, G.....	2,454.0	845.6	E	
13 STALLS, J.....	2,447.0	843.2	A	
14 RITSCHKE, G.....	2,438.0	840.1	E	
15 MARTIN, T.....	2,420.0	833.9	E	
16 RANDOLPH, W.....	2,409.0	830.1	S	S-1
17 STOVALL, W.....	2,353.0	810.8	S	S-2
18 LOWERY, R.....	2,281.0	786.0	A	
19 PANTZAR, D.....	2,242.0	772.6	E	
20 HURLEY, C.....	2,163.0	745.3	E	
21 CONRAD, W.....	2,030.0	699.5	A	
22 QUISENBERRY, J.....	2,000.0	689.2	A	
23 THOMAS, R.....	1,918.0	660.9	E	
24 CHASTELER, T.....	1,842.0	634.7	E	
25 WENTWORTH, C.....	1,603.0	552.4	S	

2 Meter Division

Name	Actual Score	Normal Score
1 POULSEN, G.....	2,841.0	1,000.0
2 SLIFF, B.....	2,727.0	959.9
3 LAMPRECHT, D.....	2,641.0	929.6
4 THOMAS, R.....	2,633.0	926.8
5 HURLEY, C.....	2,556.0	899.7
6 WHITE, L.....	2,547.0	896.5
7 QUISENBERRY, J.....	2,468.0	868.7
8 CONRAD, W.....	2,414.0	849.7
9 LUPPERGER, J.....	2,301.0	809.9
10 JOY, G.....	2,298.0	808.9
11 LOWERY, R.....	2,204.0	775.8
12 FINK, S.....	1,655.0	582.5

Yearly Standings

Open Division

Through February 1989

Name	Score	#	Ave
1 HARRIS, P.....	1,995.6	2	997.8
2 GARNER, R.....	1,941.2	2	970.6
3 CHASTELER, F.....	1,937.5	2	968.8
4 HENDRY, S.....	1,911.5	2	955.8
5 WHITE, L.....	1,904.1	2	952.1
6 LUPPERGER, J.....	1,900.8	2	950.4
7 LAMPRECHT, D.....	1,882.9	2	941.5
8 FINK, S.....	1,852.9	2	926.5
9 JOY, G.....	1,827.2	2	913.6
10 MARTIN, T.....	1,824.5	2	912.3
11 RITSCHKE, G.....	1,764.8	2	882.4
12 POULSEN, G.....	1,763.2	2	881.6
13 STALLS, J.....	1,758.5	2	879.3
14 LOWERY, R.....	1,748.7	2	874.4
15 PANTZAR, D.....	1,729.9	2	865.0
16 HURLEY, C.....	1,696.9	2	848.5
17 SLIFF, B.....	1,681.4	2	840.7
18 THOMAS, R.....	1,639.0	2	819.5
19 CONRAD, W.....	1,632.6	2	816.3
20 STOVALL, W.....	1,313.8	2	656.9
21 RICHARDSON, P.....	974.1	1	974.1
22 DANRICH, D.....	967.3	1	967.3
23 CRON, A.....	965.0	1	965.0
24 ENGER, L.....	951.2	1	951.2
25 DEE, M.....	943.8	1	943.8
26 NEMECEK, D.....	935.1	1	935.1
27 RANDOLPH, W.....	830.1	1	830.1
28 QUISENBERRY, J.....	689.2	1	689.2
29 CHASTELER, T.....	634.7	1	634.7
30 WEBSTER, D.....	599.2	1	599.2
31 WENTWORTH, C.....	552.4	1	552.4

2 Meter Division

Through February 1989

Name	Score	#	Ave
1 THOMAS, R.....	1,912.2	2	956.1
2 SLIFF, B.....	1,898.9	2	949.5
3 HURLEY, C.....	1,895.3	2	947.7
4 POULSEN, G.....	1,870.9	2	935.5
5 LAMPRECHT, D.....	1,870.7	2	935.4
6 WHITE, L.....	1,867.9	2	934.0
7 CONRAD, W.....	1,820.4	2	910.2
8 LUPPERGER, J.....	1,809.9	2	905.0
9 LOWERY, R.....	1,672.3	2	836.2
10 JOY, G.....	1,586.8	2	793.4
11 FINK, S.....	1,487.1	2	743.6
12 QUISENBERRY, J.....	868.7	1	868.7

DAVE THORNBURG'S RULES

1. Drift with the lift. Thermals tend to blow along with the wind, so follow them.
2. Stay with what you've got. Low thermals have Down air nearby.
3. There ain't no zero-lift: a) A weak, low thermal will almost always grow; b) If you're not sinking, there's some lift; c) If you're sinking, move someplace else--fast!
4. Don't leave a thermal and come straight back upwind; a) Sink holes follow thermals; b) Strong lift will usually have strong Downs nearby--and vice versa. If some air is going up, some other air must be coming down to replace it, and vice versa. Sometimes the patch of Down air (sink) is so large that you can't get out of it.
5. Fuselage angle indicates rising or sinking air: a) Thermals will tend to push the plane outward, so turn back against a lift-induced turn to get into the core; b) Establish where the core is by making a couple of passes through the lift; c) Once circling in lift, notice which side of the circle is better, and drift in that direction.

The implicit rule is: Slow down in lift, and speed up in sink. Once you find a thermal, don't lose contact with it! Sometimes you find a nice thermal and think you've got your 10 minutes made. You relax. The next thing you know, you're sinking, and you're wondering where the heck the lift went!

6. Develop a minute sensitivity to air quality: a) Lift comes through in cycles; b) Hot spots for thermals and ridge-type lift tend to stay put for a long time; c) A thermal passing through as you launch can often be overtaken downwind; d) A sudden wind shift usually indicates a thermal nearby--the wind on the ground blows toward the thermal.

You need to feel small air-temperature changes; warmer means lift; colder is sink. You need to know which way the wind is blowing without looking at your ribbon.

7. Learn to use ballast: a) Wing loading translates into flying speed (the heavier the plane, the faster it must fly); b) The trick is to add enough ballast to achieve good glide speed without handicapping the ship in weak lift or making it too hard to land; c) If the wind is strong enough to require ballast, flying downwind is usually bad.

The fast, more efficient ships benefit most from ballast. There's no point putting a pound of lead in a Windrifter for 20 mph conditions, because it won't fly faster than 20 mph anyway.

8. Ways of finding and using lift. There are several visible signs of lift that you should watch for: shifts in the wind or temperature, swifts chasing bugs, other sailplanes, etc. Soaring birds may be around to key off of, but they may be up too high for an accurate thermal telltale. Piggybacking off another flier also works! (Model Builder, Sept87/ NSS Journal, Nov-Dec 88)

LEE RENAUD MEMORIAL CONTEST

Sponsored by the Harbor Soaring Society

Date: March 5, 1989

Place: Mac Freed Memorial Field (Fairview Regional Park at the end of Canyon Drive.)

Registration begins at 0800 hrs, with a pilots meeting at 0900 hrs

THREE CLASSES OF PILOTS:

Junior, Novice, and Advanced

Classes are defined as follows: Junior is any flyer under 16 years old; Novice is any flyer who has not won or placed in any SC2 contest; Advanced is anyone who doesn't fit the other two classes.

Awards will be to third place in each class.

THREE ROUNDS OF SOARING

All rounds will be called flight order

- First round will be THREE min. duration, 50' landing circle (score landing in/out, flight score 900/100)
- Second round will be SEVEN min. duration, 50' landing circle (score landing in/out, flight score 900/100)
- Third round will be FIVE min. duration, standard landing tape (flight score 900 plus tape score, max 100)

Contest Director: . . . Frank Chastler (714) 545-2185

CoDirector: Ken Myers (714) 968-6901

Entry fee is \$4.00

100% of proceeds go to the AMA Library

There will be a raffle for pilots and helpers at the conclusion of the contest--So come & Win